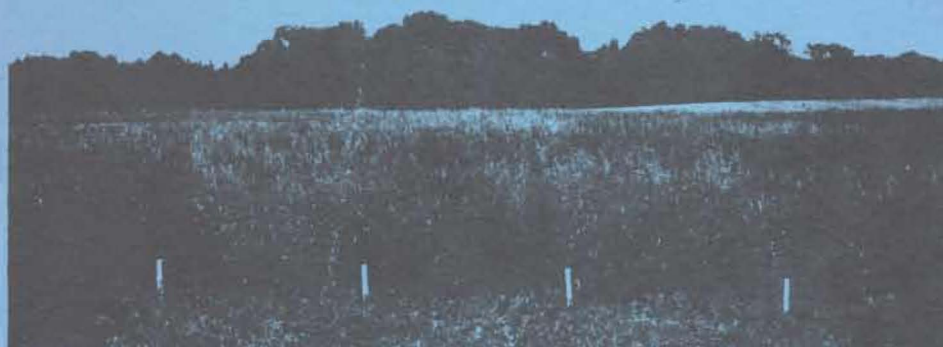


FORAGE CROP INVESTIGATIONS - ONTARIO

1976 Report on Field Trials of Varieties and Mixtures



Research Station, Ottawa

Experimental Farm, Kapuskasing

Experimental Farm, Thunder Bay

Kemptville College of Agricultural Technology, Kemptville

New Liskeard College of Agricultural Technology, New Liskeard

Ontario Agricultural College, University of Guelph, Guelph

Ridgetown College of Agricultural Technology, Ridgetown

Forage Crop Investigation
1976

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brome grass
orchardgrass
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FORWARD

This Forage Investigation Report contains data and information collected from Forage Variety and Production trials conducted under the auspices of the Ontario Forage Crop Committee. Data from Canada Agriculture, Ontario Ministry of Agriculture and Food and the University of Guelph Agricultural Research Stations are included.

Generally, only data collected in 1976 are included. However, in some cases data from previous years are included. Thus the data for any one variety or management practice contained herein cannot be considered as complete or final.

The report is published for use of the members of the Committee and other persons who are interested in and concerned with the evaluation of forage variety and production practices. The data contained herein are considered confidential in that interpretation and publication of said data is not permitted without permission of the Ontario Forage Crop Committee.

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ONTARIO ALFALFA TRIALS

- 1973 Seedings:
- a. Early Cultivars: Saranac, Angus, Thor, Anchor, Citation, Nuggett
 - b. Medium Cultivars: Vernal, Iroquois, Weevlcheck, Titan, WL202, WL210, WL215, Algonquin, 520, Aztec, Valor, Kodiak
 - c. Test Locations: Ridgetown, New Liskeard
- 1974 Seedings:
- a. Early Cultivars: Saranac, Angus, Thor, Anchor, Citation, Nuggett, 530, WL311, Maris Phoenix, 131, K1-7, K1-10, CW5, Pacer, Saranac A.R. Honeoye
 - b. Medium Cultivars: Vernal, Iroquois, Weevlcheck, Titan, WL202, WL210, 520, Algonquin, Aztec, Valor, Kodiak, Klondike, Polar-1, K3-11, Agate, Ramsey, WL318
 - c. Test Locations: Guelph, Thunder Bay, Ottawa
- 1975 Seedings:
- a. Early Cultivars: Saranac, Anchor, Thor, Angus, WL311, WL318, K1-7, K1-10, Maris Phoenix, 131, CW5, Pacer, Saranac A.R., Honeoye, Vista, Apollo, Victor, Olympic
 - b. Medium Cultivars: Vernal, Iroquois, Weevlcheck, Titan, WL202, WL210, WL215, 520, Algonquin, EA21, Polar-1, Agate, Ramsey, 521, K3-15, MLM 02015, MLM 02016, MLM 02017
 - c. Test Locations: Ridgetown, Ottawa, Kapuskasing
- 1976 Seedings:
- a. Early Cultivars: Angus, Anchor, Thor, Saranac, Apollo, Victor, Olympic, Vista, 530, Atlas, NAPB51
 - b. Medium Cultivars: Iroquois, Vernal, Weevlcheck, Titan, WL202, WL210, WL215, 520, A21, Algonquin, Valor, 521, K3-15, MLM 02015, MLM 02016, MLM 02017, MLM 02018, MLM 02019, MLM 02020, G747, CW9
 - c. Test Locations: Ridgetown, Elora, Kemptville, Ottawa, Thunder Bay

At the November meeting of the Ontario Forage Crops Committee, the final disposition of alfalfa varieties with 6 or more station years of data was as follows:

Early

Support for licence, and recommend in 1977, if licensed:

Pioneer 530, WL 311

Support for licence and recommend when seed available:

Citation, Pacer, Kl-10, Kl-7

Discontinue testing:

Nuggett, CW 5, 131, Honeoye, Saranac AR, Maris Phoenix

Withdrawn by Sponsor:

Kodiak, WL 210

Medium

Recommend when seed available:

Klondike, Kodiak

Discontinue testing:

Aztec

Mean Yields (kg/ha) of Some Varieties and Checks

<u>Comparison</u>	<u>Southern Ontario</u>			<u>Northern Ontario</u>			<u>Provincial Mean</u>	
	<u>No.</u>	<u>Cut 1</u>	<u>Total</u>	<u>No.</u>	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>
	<u>Station Years</u>			<u>Station Years</u>				
Citation	6	5437	11,647	3	3482	5792	4924	9,825
Angus		5469	11,512		3471	5620	4933	9,665
Nuggett		5437	11,148		3434	5026	4846	9,351
Pioneer 530	5	5189	11,215	5	3194	5214	4192	8,215
Angus		5458	11,205		3105	5125	4282	8,165
Angus	4	5607	11,732	2	3729	6690	4981	10,051
Pacer		5919	12,090		4151	6914	5330	10,365
CW 5		4890	10,920		3923	6859	4567	9,566
131		5376	11,520		4098	7013	4950	10,018
Honeoye		5580	11,608		3950	6979	5037	10,065
Saranac AR		5360	11,529		3649	6508	4808	9,841
Maris Phoenix		5393	11,569		3652	6366	4813	9,834
K1-10		5868	12,114		3899	6865	5211	10,364
WL 311		5807	12,227		3738	6699	5115	10,384
K1-7		5467	11,901		3856	6641	4930	10,148
Iroquois	4	5448	11,792	3	4126	6450	4952	9,503
Aztec		5075	11,278		3552	5603	4504	8,845

SUMMARY, 1974 & 1975 SEEDED EARLY ALFALFA TESTS

Mean Northern Stations(2) Mean Southern Stations(4) Provincial Mean

Saranac	6639	11619	9959
Anchor	6775	11725	10075
Thor	6889	11741	10124
Angus	6783	11732	10082
WL311	6765	12227	10406
K1-7	6641	11901	10148
K1-10	6865	12114	10364
Maris Phoenix	6366	11569	9834
131	7013	11520	10017
CW5	6859	10920	9566
Saranac A.R.	6508	11529	9855
Honeoye	6979	11608	10065
Pacer	6914	12090	10365

Early Alfalfa Tests

1973 Seedings - 1974-1976 total yields - 3-year mean (kg/ha)

Ridgetown (1031)	1974	1975	1976	3-yr Mean
Nuggett	11375	12268	10463	11369
Saranac	12016	12456	10837	11770
Thor	12351	13406	11210	12322
Citation	11645	12603	10683	11644
EA91	12055	12697	10685	11812
Anchor	11551	12667	11405	11874
Angus	11661	13096	11417	12058
LSD (5%)	927	614	706	
C.V.	5.29%	3.24%	4.33%	
F.	N.S.	*	N.S.	

1974 Seedings

Guelph (2738)

	1975	1976	2-yr Mean
Saranac	9102	12361 ¹⁵	10732
Anchor	9222	12941 ¹⁶	11082
Thor	8918	12980 ⁵	10949
Angus	8946	12411 ¹²	10679
530	9238	12805 ⁹	11022
Nuggett	8839	12435 ¹¹	10637
WL311	9289	13044 ³	11167
Citation	9384	13171 ²	11278
K1-7	9599	13413 ¹	11506
K1-10	9129	12267 ¹⁶	10698
Maris Phoenix	9101	12409 ¹³	10755
131	8843	12849 ⁸	10846
CW5	7492	12544 ¹⁰	10018
Pacer	8894	13027 ⁴	10961
Saranac A.R.	9109	12388 ¹⁴	10749
Honeoye	9231	12930 ⁷	11081
LSD (5%)	870	1070	
C.V.	6.75%	5.88%	
F.	*	N.S.	

1975 Seedlings

Ridgetown (1038)	Cut 1	Cut 2	Cut 3	Total (Kg/ha)
Saranac	5758	3947	3369	13074
Anchor	5782	4073	3195	13050
Thor	5914	4083	3300	13297
Angus	6043	4158	3831	14032
WL311	5900	4158	3617	13675
WL318	5588	4228	3521	13337
K1-7	5910	4236	3294	13440
K1-10	6218	3920	3888	14026
131	5239	3829	3171	12239
CW5	5769	3901	3298	12968
Pacer	6200	4133	3653	13986
Saranac AR	5623	4176	3789	13588
Honeoye	5778	3860	3473	13111
Maris Phoenix	5848	4163	3524	13535
LSD(5%)	493	306	481	775
C.V.	5.93%	5.28%	9.63%	4.05%
F.	*	N.S.	*	**

Note: The seed of the cultivars Vista, Apollo, Olympic and Victor was received after the Ridgetown test was seeded.

Kapuskasing (6484)	Cut 1	Cut 2	Total (Kg/ha)
Saranac	4216	3091	7307
Anchor	4179	3239	7418
Thor	4409	3272	7681
Angus	4228	3272	7500
WL311	4564	3264	7828
WL318	4800	3419	8219
K1-7	4146	3024	7170
K1-10	4317	3360	7677
131	4600	3536	8136
CW5	4176	3190	7366
Pacer	4451	2917	7368
Saranac A.R.	4108	3282	7390
Honeoye	4252	3353	7605
Vista	4532	3129	7661
Apollo	4766	3069	7835
Olympic	4284	3063	7347
Victor	3907	2811	6718
Maris Phoenix	4111	2983	7094
LSD(5%)	842	512	1227
C.V.	11.71%	9.71%	9.85%
F.	N.S.	N.S.	N.S.

Medium Alfalfa Tests

1973 Seedlings, 1974 - 1976 Total Yields & 3-year Mean (Kg/ha)

11106
1165
12271

Ridgetown (1030)	1974	1975	1976	3-yr Mean
Algonquin	12228	12469	11106	11934
EA21	12185	12662	11505	12117
N7-5	12051	12576	12603	12410
Aztec	12052	12912	11526	12163
Kodiac	12853	12481	11045	12126
Valor	12535	12668	12380	12528
Iroquois	11962	13008	12530	12500
Vernal	11682	12308	11559	11850
Weevlcheck	12540	12753	11508	12267
520	12305	13123	12582	12670
WL215	11606	12356	11265	11742
Titan	11919	12476	11766	12054
WL202	12336	12833	12296	12488
WL210	12639	12338	11590	12189
LSD(5%)	771	782	1168	
C.V.	4.42%	4.33%	6.93%	
F.	N.S.	N.S.	N.S.	

12228
12185
12051
12052
12853
12535
11962
11682
12540
12305
11606
11919
12336
12639

11
469
782
1251
12251

11106
1165
12264

8547
1046
9593

New Liskeard (8005)	1974	1975	1976	3-yr Mean
Algonquin	6565	5097	8547	6736
EA21	7964	5019	-10108	7697
N7-5	7533	4399	9389	7107
Aztec	6710	4369	8883	6654
Kodiak	7094	3762	8968	6608
Valor	7815	4873	9525	7404
Iroquois	7803	5162	-10015	7660
Vernal	6918	5036	8216	6723
Weevlcheck	6895	4562	9017	6825
520	7371	-3805	9343	6840
WL215	7878	-4236	-9666	7260
Titan	6636	4282	8376	6431
WL202	6626	-4159	8831	6539
WL210	6856	-4091	9139	6695
Saranac	8044	5472	9526	7681
Angus	7227	4621	9508	7119
Thor	7059	4090	8953	6701
Anchor	7608	4658	8819	7028
Nuggett	6706	4402	8703	6604
Citation	7152	5288	9436	7292
EA91	7636	4349	9305	7097
LSD(5%)	1507	831	1046	
C.V.	14.72%	12.89%	8.08%	
F.	N.S.	**	*	

Print

1974 Seedings

Guelph (2737)

1975

1975 (1 cut only, Kg/ha)

Valor	8639	4394 ¹²
Kodiak	8977	4699 ⁴
Aztec	8624	4004 ¹⁶
P-18	9389	3971 ¹⁷
WL318	9396	4815 ²
Klondike	9131	4913 ¹
K3-11	8906	4169 ¹⁵
WL202	9276	4558 ⁹
520	8981	4638 ⁵
Agate	9117	4575 ⁷
Ramsey	8126	4596 ⁶
Weevlcheck	8854	4573 ⁸
Titan	8555	4339 ¹⁴
Iroquois	9668	4383 ¹³
Vernal	9215	4528 ¹⁰
Algonquin	8596	4398 ¹¹
WL210	9267	4769 ³
LSD(5%)	1414	630
C.V.	11.07%	9.83%
F.	N.S.	N.S.

Klondike

1975 Seedings, Ridgetown (1037), Kapuskasing (6457)

1976 Yields (Kg/ha), 2 station Mean

	Ridgetown	Kapuskasing	2-station Mean
Titan	14021	8178	11100
Iroquois	14014	7552	10783
WL215	13896	7941	10919
Weevlcheck	13882	7517	10700
Algonquin	13871	7790	10831
Polar-1	13835	7504	10670
Vernal	13813	7446	10630
520	13784	8428	11056
WL202	13710	7972	10841
K3-11	13674	7418	10546
MLM 02015	13592	7839	10716
MLM 02017	13539	7719	10629
MLM 02016	13436	7769	10603
521	13371	7530	10451
WL210	13369	8593	10981
K3-15	13087	8013	10550
Agate	12656	7668	10162
Ramsey	-	7478	-
LSD(5%)	954	1461	
C.V.	4.93%	11.30%	
F.	N.S.	N.S.	

1976 Bacterial Wilt Test

Infection in this trial was very severe as indicated by the very high rating of the susceptible check Dupuits (4.50). A rating of 5.0 indicates dead plants. As usual the test included five replicates with 15 plants per rep.

Cultivar	Mean rating	Cultivar	Mean rating
MLM02015	1.95	Altlas	2.52
Apollo	2.19	MLM02019	2.55
MLM02017	2.19	Angus	2.65
MLM02018	2.24	Victor	2.67
Iroquois	2.29	K3-15	2.68
NAPB51	2.41	G747	2.71
Olympic	2.41	MLM02020	2.75
CW9	2.42	530	2.99
521	2.47	Vista	3.08
MLM02016	2.48	Dupuits	4.50

C.V. of test 11.60%

Chemical Composition - Alfalfa Varieties, Cut 1, 1976

<u>Variety</u>	<u>Protein</u>	<u>Ca</u>	<u>P</u>	<u>%</u> <u>Mg</u>	<u>K</u>	<u>Mn</u>	<u>ppm</u> <u>Cu</u>	<u>Zn</u>
<u>1. Bulkcd Samples</u>								
Anchor	19.6	1.54	.32	.27	2.71	34	6	29
Thor	21.2	1.46	.33	.26	2.45	41	6	34
Angus	19.0	1.33	.33	.26	2.41	41	6	32
Nuggett	18.2	1.46	.37	.27	2.42	40	4	33
520	19.1	1.63	.34	.25	2.37	32	6	30
Vernal	17.8	1.50	.31	.24	2.20	34	6	25
WL 210	18.5	1.66	.34	.26	2.37	40	6	32
Algonquin	19.8	1.80	.35	.27	2.48	37	6	30
WL 202	16.6	1.69	.31	.25	2.22	44	6	25
Weevlcchek	19.8	1.77	.35	.25	2.43	34	7	31
Titan	18.6	1.53	.32	.23	2.37	34	7	30
Valor	17.1	1.33	.33	.29	2.18	38	5	28
<u>2. Individual Samples</u>								
Saranac (Ridgetown)	18.2	1.45	.25	.20	2.52	32	9	30
Saranac (Guelph)	18.3	1.25	.30	.30	2.50	35	6	20
Iroquois (R)	19.2	1.40	.24	.19	2.33	28	7	26
Iroquois (G)	16.6	1.18	.29	.26	2.23	39	6	24

I.V.D.(%) - Alfalfa - Early Varieties

Variety	<u>Cut 1 - 1975</u>					<u>Cut 1 - 1976</u>		
	<u>Ridgetown</u>	<u>Guelph</u>	<u>Ottawa</u>	<u>Thunder Bay</u>	<u>Mean</u>	<u>Ridgetown</u>	<u>Guelph</u>	<u>Mean</u>
Anchor	58.2	54.3	62.7	64.3	59.9	67.5	62.2	64.9
Thor	56.3	54.9	62.9	66.7	60.2	71.0	61.7	66.4
Angus	57.7	55.9	62.6	63.9	60.0	67.2	60.8	64.0
Saranac	60.0	58.8	61.3	66.3	61.6	--	61.1	--
Citation	58.8	57.5	62.0	64.8	60.8	--	60.9	--
Nuggett	58.1	55.6	61.9	64.3	60.0	--	61.4	--
Pioneer 530	--	61.8	64.2	65.1	63.7	--	56.8	--
Pacer	--	54.1	63.5	63.8	60.5	59.8	61.1	60.4
WL 318 (218)	--	--	--	--	--	66.6	--	--
CW 5	--	56.4	64.2	66.1	62.2	64.8	61.5	63.2
131	--	58.6	63.2	64.6	62.1	--	60.0	--
Honeoye	--	51.8	--	66.3	59.1	65.0	61.0	63.0
Saranac AR	--	58.0	63.6	67.0	62.9	64.0	61.4	62.7
Maris Phoenix	--	58.4	63.2	66.2	62.6	68.1	60.0	64.1
K1-10	--	53.8	63.2	63.8	60.3	65.4	61.0	63.2
WL 311	--	58.7	64.0	65.1	62.6	67.1	59.1	63.1
K1-7	--	57.3	62.0	65.6	61.6	65.8	61.0	63.4

I.V.D.(%) - Alfalfa - Medium Varieties

Variety	Ridgetown	Cut 1 - 1975		New Liskeard	Mean	Cut 1 - 1976		Mean
		Guelph	Ottawa			Ridgetown	Guelph	
Pioneer 520	59.7	52.9	61.7	64.8	59.8	67.2	62.8	65.0
Iroquois	58.4	56.2	64.2	64.8	60.9	65.8	60.1	63.0
Vernal	58.9	61.6	59.9	66.4	61.0	64.5	62.4	63.5
WL 210	60.9	54.8	63.7	66.4	61.5	66.4	59.8	63.1
Algonquin	61.6	55.7	62.5	66.3	61.5	65.3	61.8	63.6
WL 202	61.0	55.4	63.0	65.1	61.1	63.0	55.8	59.4
Weevlchek	61.1	58.4	64.0	66.5	62.5	68.5	60.6	64.6
Titan	61.0	57.1	61.1	65.7	61.2	69.6	59.8	64.7
Valor	58.5	46.7	58.5	64.7	57.1	--	58.8	--
Klondike	--	50.9	63.3	--	57.1	--	55.2	--
Aztec	57.7	51.4	57.7	66.4	58.3	--	61.0	--
K3-11	--	56.3	63.7	--	60.0	67.2	59.6	63.4
Agate	--	57.6	62.0	--	59.8	62.4	60.8	61.6
Polar 1	--	53.5	65.8	--	59.7	67.4	61.7	64.6
Ramsey	--	51.0	61.2	--	56.1	--	60.4	--
Pioneer 521						65.6	--	--
MLM 02016						66.1	--	--
K3-15						64.7	--	--
Kodiak	60.3	50.4	62.3	65.0	59.5	--	58.8	--
WL 218	--	59.5	66.2	--	62.9	--	59.2	--

Birdsfoot Trefoil Varieties

CURRENT STATUS OF VARIETIES - OCTOBER 31, 1976

<u>Variety</u>	<u>Entered By</u>	<u>Official Status</u>	<u>Station Years Data</u>
Leo	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Empire	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Viking	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Maitland	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Carroll	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Z 9035	Szego Assoc.		10
Cree	Saskatchewan		10
KO - 4	Nat. N.K.		0
MCH - 67	O.F.C.C.		0

Disposition - November 1976

Z 9035
Cree - No support for licensing or recommendation

Yield (kg/ha) of Leo, Cree and Z-9035

<u>Variety</u>	<u>Southern Ontario</u>			<u>Northern Ontario</u>			<u>Provincial Mean</u>	
	<u>Station</u>	<u>Years</u>	<u>Cut 1</u>	<u>Total</u>	<u>Station</u>	<u>Years</u>	<u>Cut 1</u>	<u>Total</u>
Leo	5		5161	8604	7		3837	6089
Cree			5112	8106			3595	5612
Z 9035			5478	8681			3430	5435
							4389	7137
							4227	6651
							4284	6788

Chemical Composition - Cut 1, 1976, Thunder Bay

<u>Variety</u>	<u>Protein</u>	<u>Ca</u>	<u>%</u>	<u>P</u>	<u>Mg</u>	<u>K</u>	<u>Mn</u>	<u>ppm</u>	<u>Zn</u>
Viking	15.0	1.11		.19	.28	2.00	21	6	19
Empire	16.0	.89		.18	.25	1.99	23	6	20

Mean Yields Trefoil at Kapuskasing and Thunder Bay
Seeded 1974, Harvested 1976

Variety	Dry Matter Yield kg/ha		
	Cut 1	Cut 2	Total
Leo	4151	3383	7534
Empire	4155	3036	7191
Viking	3716	2800	6516—
Maitland	3928	3055	6982—
Carroll	3854	2891	6744
Z-9035	3628	3050	6678
Cree	4178	2883	7061
Orsegi	3294	2837	6132

Thunder Bay Trefoil
Seeded 1974, Harvested 1976

Variety	Dry Matter Yield kg/ha		
	Cut 1	Cut 2	Total
Leo	5307	3922	9228
Empire	5733	3424	9157
Viking	6050	3455	9505—
Maitland	5669	3672	9340—
Carroll	4635	3385	8020
Z-9035	4239	3553	7792
Cree	5751	3461	9212
Orsegi	5583	3745	9329

Kapuskasing Trefoil
Seeded 1974, Harvested 1976

Variety	Dry Matter Yield kg/ha		
	Cut 1	Cut 2	Total
Leo	2995	2845	5840
Empire	2577	2649	5225
Viking	1382	2145	3527—
Maitland	2186	2438	4624—
Carroll	3073	2396	5469
Z-9035	3017	2546	5564
Cree	2605	2305	4910
Orsegi	1005	1929	2934

Red Clover Varieties

CURRENT STATUS OF VARIETIES - OCTOBER 31, 1976

<u>Variety</u>	<u>Entered By</u>	<u>Official Status</u>	<u>Station Years Data</u>
Ottawa	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Dollard	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Lakeland	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Hungaropoli*		Licensed & Rec., O.F.C.C.	-
Ottawa 4n	Ottawa R. S.	Rec. for licence, 1974	16
WWR 45	OSECO		5
WWR 80	OSECO		5
Norlac	O.F.C.C.		5
Altaswede	O.F.C.C.	Licensed	5
Arlington	OSECO		5
K8-115	Nat. N.K.		5
Redland	OSECO		1
MLM 03007	M.L.M.		2
MLM 03006	M.L.M.		2
Prosper I	Nat. N.K.		0

* No data, no trials seeded in 1976

Disposition of Varieties - November 1975

Dollard - Remove from recommended list
Ottawa 4N - Continue deferred status

ONTARIO RED CLOVER TRIALS

1974 Seedings: Double cut (early) cultivars: Ottawa, Dollard, Lakeland,
K8-115, Arlington, Ottawa 4n
Single cut (late) cultivars: WWR45, WWR80, Altaswede, Norlac
Test locations: Ottawa, New Liskeard, Kapuskasing

1975 Seedings: Double cut (early) cultivars: Ottawa, Dollard, K8-115, Arlington,
Ottawa 4n, Redland, MLM 03007
Single cut (late) cultivars: WWR45, WWR80, Altaswede, Norlac,
MLM 03006
Test locations: Ridgetown, Kapuskasing

1975 Seedings: Double cut (early) cultivars: Dollard, Lakeland, Ottawa,
Prosper-1 (K8-116)
Single cut (late) cultivars: Altaswede, MLM 3006
Test locations: Guelph, Kemntville, Kapuskasing,
Thunder Bay, Ottawa

SUMMARY 1974 and 1975 RED CLOVER TESTS

Total Seasonal Production (Kg/ha)

	Ottawa 1975	Kapuskasing 1975	New Liskeard 1975	Ridgetown 1976	Kapuskasing* 1976	Mean North	Mean South	Mean Province
Ottawa	8381	3382	5109	10480	3147	3645	9431	5959
Dollard	8276	3709	4708	10456	2714	3710	9366	5973
Wakeland	9091	3473	5202	-	-	-	-	-
115	7837	3418	5501	10486	3212	4044	9162	6091
Arlington	7868	3183	5609	11037	3147	3980	9453	6169
Ottawa 4n	7798	3427	3999	9735	2918	3448	8767	5575
			MLM 3007	9589	3117	-	-	-
			Redland	-	2883	-	-	-
LSD(5%)	922							
C.V.	7.46%							
F.	N.S.							
			MLM 3006	7985	4505	-	-	-
R 45	8202	3483	4525	8656	4451	4153	8429	5863
R 80	7707	4324	4862	8816	5953	5046	8262	6332
Altaswede	7310	3942	4187	8460	4881	4337	7885	5756
Marlac	7232	4105	4606	8257	4797	4503	7745	5799
LSD(5%)	744	676	663	784	1052			
C.V.	6.12%	12.78%	9.46%	5.74%	17.00%			
F.	N.S.	*	**	**	**			

I.V.D. (%) - Red Clover Varieties

Variety	Cut 1 - 1975				Cut 1 - 1976	
	Ottawa	New Liskeard	Thunder Bay	Mean	Ridgetown	Thunder Bay
Ottawa	65.8	62.4	68.6		--	72.8
Dollard	64.0	64.4	--		70.4	--
Hungaropoli	--	--	69.0	--	--	70.0
Ottawa 4N	63.5	64.6	70.3		66.4	--
Norlac	61.8	68.7	--		68.6	--
Altaswede	63.5	65.4	72.1		71.6	--
K8-115	66.0	61.1	--		67.4	--
MLM 03007	--	--	--	--	72.0	--
Britta	--	--	71.7	--	--	74.8
Tripo	--	--	--	--	--	76.6
N7-130	--	--	71.5	--	--	74.2
N7-131	--	--	--	--	--	72.4

Chemical Composition - Cut 1, 1976

Variety	Protein	<u>%</u>				<u>ppm</u>		
		Ca	P	Mg	K	Mn	Cu	Zn
Ottawa (Ridgetown)	15.5	1.17	.19	.28	1.27	25	10	30
Ottawa (Thunder Bay)	17.1	1.75	.22	.31	1.57	19	7	18
Dollard (Ridgetown)	19.3	1.53	.31	.38	1.94	31	10	34
Dollard (Thunder Bay)	14.5	1.35	.21	.39	1.51	27	6	22

BROMEGRASS

Provincial brome grass tests were harvested in 1976 from 1974 seeding at Ridgetown and from 1975 seeding at Guelph, Ottawa, Thunder Bay and New Liskeard. Yields were generally quite high at all locations. Beacon, Barton and Tempo continued to yield well. Baylor was again among the better producers indicating that previous problems with this variety were simply due to the seed lot used in many of the tests. The new entries K1-105 and M.L.M. 13009 do not seem very promising at this early stage of testing.

The strain S7380 from Saskatchewan now has sufficient data for consideration for licence recommendation. Dr. R.P. Knowles does not intend to proceed with this strain so it does not require consideration.

The variety Blair was tested for the Rudy-Patrick Co. during the period 1962-70. Though its yield performance was superior to the check on the average of 17 test-years no decision was made as to recommendation. Now Maple Leaf Mills has requested a decision on this variety and the available data support our recommendation.

New tests of the same entries seeded in 1975 were seeded in 1976 at Ridgetown, Kemptville, Ottawa, New Liskeard and Kapuskasing. Several locations had difficulty with establishment due to dry weather. In spite of reseeded some tests do not appear likely to be satisfactory.

Seed production estimates for 1976 for Canada are for 1.4 million pounds of brome grass which is less than half the amount of previous years. Reduced acreage and low yields due to dry weather account for the reduction. In addition, imports of 100,000 lb and exports of 500,000 lb may result in some shortages of recommended varieties.

F.S. Warren
Coordinator
3.11.76

Bromegrass Varieties

CURRENT STATUS OF VARIETIES - OCTOBER 31, 1976

<u>Variety</u>	<u>Entered By</u>	<u>Official Status</u>	<u>Station Years Data</u>
Baylor	OSECO	Licensed & Recom.	
Saratoga	OFCC	Licensed & Recom.	
Tempo	Ottawa R. S.	Licensed, Deferred Rec.	26
Beacon	OSECO	Licensed, Deferred Rec.	14
Barton	OSECO	Supported for License, Deferred Rec.	14
Ottawa Syn. D-1	Ottawa R. S.	Supported for License, Deferred Rec.	10
S 7380	Sask.		22
Blair	MLM		17
KL-105	National N-K		5
S 7380A	Sask.		4
S 8805	Sask.		4
Baylor C	OFCC		4
MLM 13009	MLM		4

Disposition of Varieties, November 1976:

Blair - Support for license, defer recommendation until
adequate seed available

Ottawa Syn. D-1
S 7380 - Withdrawn by Sponsor

PROVINCIAL BROMEGRASS TEST

EXPT. 1033

RIDGETOWN, ONTARIO

1976 Hay Yields from 1974 Seeding

Variety or strain	<u>Y i e l d DM kg/ha</u>		Total
	Cut 1	Cut 2	
Barton	6008	4413	10421
Beacon	5164	3828	8991
Redpatch	5499	3480	8978
New Magna	5122	3801	8923
Saratoga	5265	3550	8814
Syn D-1	4848	3864	8712
Carleton	4621	3933	8554
Tempo	4495	3804	8299
S 7380	4767	3496	8264
Mean	5088	3797	8884
L.S.D. (5%)	906.1	493.8	1189.9
C.V. (%)	10.3	7.5	7.7

PROVINCIAL BROMEGRASS TEST

EXPT. 2751

GUELPH, ONTARIO

1976 Hay Yields from 1975 Seeding

Variety or strain	<u>Y i e l d DM kg/ha</u>		Total
	Cut 1	Cut 2	
Beacon	7946	5956	13903
Baylor	7829	5531	13360
Barton	7792	5290	13082
K1-105	7413	5625	13038
Baylor C	7743	5264	13007
S 8805	7368	5552	12920
Tempo	7338	5443	12782
Saratoga	7554	5192	12746
S 7380A	6907	5286	12194
MLM 13009	6550	5187	11737
Mean	7444	5433	12877
L.S.D. (5%)	638.0	N.S.	955.7
C.V. (%)	5.9	9.1	5.1

PROVINCIAL BROMEGRASS TEST

EXPT. 4753

OTTAWA, ONTARIO

1976 Hay Yields from 1975 Seeding

Variety or strain	<u>Y i e l d DM kg/ha</u>		Total
	Cut 1	Cut 2	
Tempo	5732	3413	9145
S8805	5506	3388	8894
MLM 13009	5259	3210	8470
Baylor S	4811	3529	8341
Barton	4696	3618	8314
S 7380A	4853	3443	8295
Baylor B	4857	3311	8168
K1-105	4469	3552	8020
Baylor C	4499	3198	7697
Beacon	4002	3337	7339
Baylor F	4061	3257	7318
Saratoga	3917	3047	6964
Mean	4722	3359	8080
L.S.D. (5%)	1076.0	N.S.	1116.1
C.V.(%)	15.8	8.5	9.6

PROVINCIAL BROMEGRASS TEST

EXPT. 7084

THUNDER BAY, ONTARIO

1976 Hay Yields from 1975 Seeding

Variety or strain	<u>Y i e l d DM kg/ha</u>		Total
	Cut 1	Cut 2	
S 7380A	7235	4763	11998
Tempo	6595	4331	10926
Beacon	6664	4237	10901
K1 105	6906	3929	10835
S 8805	6551	4225	10776
Baylor	6429	4242	10670
MLM 13009	6188	3940	10128
Baylor C	5097	3648	8745
Barton	4245	3056	7302
Saratoga	3998	3231	7229
Mean	5991	3960	9951
L.S.D. (5%)	2003.2	495.7	2330.7
C.V. (%)	23.0	8.6	16.1

PROVINCIAL BROMEGRASS TEST

EXPT. 8205

NEW LISKEARD, ONTARIO

1976 Hay Yields from 1975 Seeding

Variety or strain	Y i e l d DM kg/ha		Total
	Cut 1	Cut 2	
Baylor	6113	4606	10719
Barton	6107	3085	9193
Beacon	6027	2687	8715
Baylor C	6027	2454	8481
S 8805	5676	2421	8098
Saratoga	5421	2497	7918
Tempo	5430	2300	7730
S 7380A	5555	2167	7722
MLM 13009	5382	2219	7600
K1-105	4637	2348	6986
Mean	5638	2678	8316
L.S.D. (5%)	N.S	N.S	N.S
C.V. (%)	11.6	44.8	17.8

PROVINCIAL BROMEGRASS TESTS

Average performance at 4 locations, Guelph,
Ottawa, Thunder Bay, New Liskeard.

1976 Hay yields from 1975 seedings

Variety or strain	<u>Y i e l d DM kg/ha</u>		Total
	Cut 1	Cut 2	
Baylor	6304	4496	10800
Beacon	6383	4067	10450
S 7380A	6294	3881	10175
S 8805	6239	3882	10121
Tempo	5186	4809	9995
K1-105	5726	3871	9597
Baylor C	5885	3680	9565
MLM 13009	5849	3641	9490
Barton	5664	3762	9426
Saratoga	4997	3499	8496
Mean	5953	3858	9811
L.S.D. (5%)	717.8		991.2

COMPARISON OF BLAIR AND SARATOGA BROMEGRASS
IN ONTARIO TESTS

Yields of DM in lb/a				
<u>GUELPH</u>	<u>Expt. 226</u>		<u>Seeded 1962</u>	
	1963	1964	1965	Mean
Blair	9828	10886	5730	8815
Saratoga	10294	9838	5930	8687
<u>RIDGETOWN</u>	<u>(with Alfalfa)</u>		<u>Seeded 1963</u>	
	1964 Total	1965 Total	1966 Total	3 yr Mean
Blair	9893	9094	9760	9582
Saratoga	9705	8939	9149	9264
	<u>1965 Cut 1</u>	<u>Cut 2</u>	<u>Cut 3</u>	<u>Total</u>
Blair	6549	1924	621	9094
Saratoga	6522	1824	593	8939
	<u>1966 Cut 1</u>	<u>Cut 2</u>	<u>Cut 3</u>	<u>Total</u>
Blair	6843	1424	1493	9760
Saratoga	6108	1537	1504	9149
<u>GUELPH</u>	<u>(with alfalfa)</u>		<u>Seeded 1963</u>	
	<u>1965</u>			
Blair	5510			
Saratoga	5310			
<u>KEMPTVILLE</u>	<u>Seeded 1963</u>			
	<u>1965 Cut 1</u>	<u>Cut 2</u>	<u>Cut 3</u>	<u>Total</u>
Blair	5672	3432	2746	11850
Saratoga	5703	3317	2601	11621
<u>OTTAWA</u>	<u>(with alfalfa)</u>		<u>Seeded 1964</u>	
	<u>1965 Cut 1</u>	<u>Cut 2</u>	<u>Cut 3</u>	<u>Total</u>
Blair	4374	2034	2455	8863
Saratoga	4306	2190	2411	8907

Comparison of Blair and Saratoga Bromegrass
in Ontario Tests

Y i e l d s DM in lb/a			
<u>FORT WILLIAM</u>			
	<u>Expt. 7006</u>		<u>Seeded 1965</u>
	<u>1966</u>	<u>1967</u>	
Blair	5650	3270	
Saratoga	5180	3094	
<u>KEMPTVILLE</u>			
	<u>Expt. 3016</u>		<u>Seeded 1966</u>
	<u>1967</u>		
Blair	5341		
Saratoga	5062		
<u>NEW LISKEARD</u>			
	<u>1968</u>	<u>1969</u>	<u>1970</u>
Blair	6583	5354	4270
Saratoga	5663	5494	4347
<u>GUELPH</u>			
	<u>Expt. 2663</u>		<u>Seeded 1968</u>
	<u>1969</u>		<u>1970</u>
Blair	11092		9974
Saratoga	10482		9522
<u>AVERAGE YIELD</u>			
Area	Southern	Northern	Province
Test years	12	5	17
Variety			
Blair	8985	5025	7820
Saratoga	8730	4757	7561

I.V.D. (%), Cut 1 - Bromegrass Varieties

Variety	1975*	Ridgetown	Guelph	Ottawa	1976 New Liskeard**		Thunder Bay	Mean
	Mean				a	b		
Baylor	64.5	---	65.0	--	63.8	62.7	69.4	65.2
Saratoga	66.3	---	66.8	54.3	63.8	64.2	71.9	64.2
Tempo	65.8	70.2	69.1	55.7	--	67.5	74.8	67.5
Beacon	63.4	66.2	66.8	55.7	64.8	63.8	70.3	64.6
Barton	64.6	67.6	67.1	55.8	65.9	64.1	72.2	65.4
Ott. Syn. D-1	64.8	69.0	--	--	--	--	--	--
S 7380	64.0	72.3	--	--	63.8	--	71.3	69.1
KL-105	--	--	68.4	56.6	--	67.7	72.0	66.2
S 7380A	--	--	67.8	55.6	--	65.6	--	63.0
S 8805	--	--	68.6	56.6	--	63.0	71.2	64.9
Baylor C	--	--	65.4	55.8	--	65.4	70.2	64.2
MLM 13009	--	--	65.8	54.4	--	64.6	67.8	63.1
Redpatch	64.9	69.6	--	--	61.2	--	--	--
Carleton	65.2	72.1	--	--	61.6	--	--	--
S 7306-2	66.4	71.1	--	--	64.5	--	--	--
New Magna	65.6	70.2	--	--	64.6	--	--	--

* 6 station-years

** a = 1973 seeding, b = 1975 seeding

Cut 1, 1976 - Chemical Composition

Variety	Protein	%				ppm		
		Ca	P	Mg	K	Mn	Cu	Zn
Bulked:								
Baylor	11.4	.41	.22	.13	2.28	27	5	18
Ott. Syn D-1	10.3	.39	.22	.14	2.33	24	6	20
Beacon	11.2	.34	.23	.13	2.27	27	6	20
Barton	10.8	.38	.23	.13	2.22	25	6	20
S 7380	14.1	.28	.27	.14	2.25	29	9	22
Redpatch	11.4	.43	.26	.14	2.16	26	6	22
Saratoga-RCAT	10.4	.36	.24	.12	2.05	41	7	20
-Guelph	9.7	.29	.26	.14	3.13	75	6	17
-Ottawa	9.7	.31	.25	.12	2.55	12	4	17
-NLCAT	9.7	.31	.15	.13	2.30	17	5	11
-Thunder Bay	11.9	.19	.11	.11	1.63	29	8	17
Baylor -RCAT	12.1	.30	.21	.10	1.92	34	9	22
-Guelph	10.6	.26	.24	.13	2.96	78	7	16
-Ottawa	9.9	.31	.24	.11	2.40	12	7	21
-NLCAT	9.4	.31	.13	.11	2.02	16	6	10
-Thunder Bay	13.0	.22	.14	.12	1.54	24	8	14

Disposition of Varieties, November 1976:

Juno - Recommend in 1977

K8-120

Kall

Dart

} Continue Support for licence and deferred recommendation

Kitamadori - No support for licensing or recommendation

<u>Variety</u>	<u>Yield (kg/ha)</u>				<u>Mean</u>	
	<u>Southern Ontario</u>		<u>Northern Ontario</u>			
	<u>(7 station-years)</u>		<u>(3 station-years)</u>			
	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>
Kitamadori	4579	7161	2774	4333	4037	6313
Hallmark	5083	7792	2778	4512	4449	6808

Ontario Provincial Orchardgrass Test

Ottawa, Ont.

Hay Yields from 1974 Seeding

Yield in dry matter kg/ha

Variety	Cut 1	1975 Totals 2 cuts
Kay	4528	6667
Frode	5156	6374
Rideau	3904	6012
Tardus II	4704	6481
Nordstern	6275	5646
Hallmark	5224	8306
Kall	4448	6731
Dart	4741	7417
Majestic	4393	6107
Juno	4159	7571
K8-120	4350	6480
K8-123	4870	6333
K8-117	5222	6540
K8-118	3961	5530
S66-4-47/72	4681	6164
Ina	4238	7162
Kitamidori	5047	6850
Napier	4829	7547
Dayton	4167	7041
OX-1	4773	7337
P-36	5308	6904

CV (%)

20.91

10.15

Ontario Provincial Orchardgrass Test

Ridgetown, Ontario

Hay Yields from 1975 Seeding

Yield in dry matter kg/ha

Variety	Cut 1	Cut 2	Total
Frode	5026	4069	9096
Ottawa 6	3056	3997	7053
P-36	4806	4230	9036
Dayton	5506	3945	9451
MLM 14010	4790	4120	8911
DX-1	5320	4318	9638
Kitamidori	5889	3956	9845
MLM 14009	5114	4134	9249
Hallmark	6131	4158	10290
Dart	5227	4229	9456
Ina	4619	3781	8401
S-66-4-47/72	4134	4075	8209
Kay	4564	3850	8414
LSD 5%	373.62	372.35	521.16
CV	5.27	6.38	4.03

Ontario Provincial Orchardgrass Test

Ridgetown, Ontario

Hay Yields from 1974 Seeding

Yield in dry matter kg/ha

Variety	Cut 1	Cut 2	Total	1975 Total	2 Yr. Mean
K8-118	4833	3973	8807	8276	8542
OX-1	5070	3579	8650	8939	8795
Napier	4972	3559	8532	8495	8514
P-36	4926	3848	8775	9339	9058
Kay	4424	3659	8083	8727	8406
Hallmark	4917	3749	8667	9387	9028
Rideau	3983	3754	7737	8682	8210
Kall	4615	3653	8268	8667	8468
Ina	4621	3734	8356	8847	8602
Dayton	5178	3591	8770	8728	8749
Nordstern	4151	3580	7731	8197	7965
Juno	4640	3261	7902	8890	8397
K8-123	4301	3192	7493	8195	7845
Dart	4867	3473	8341	8965	8654
Frode	4336	3561	7897	8622	8260
K8-117	4643	3431	8075	8300	8188
K8-120	4270	3486	7756	8328	8043
Kitamidori	4674	3532	8207	8773	8490
S-66-4-47/72	3973	3709	7682	8309	7996
LSD 5%	636.81	397.44	896.24	748.38	
CV	9.79	7.81	7.73	6.11	

I.V.D. (%), Cut 1 - Orchardgrass Varieties

Variety	Ridgetown	Cut 1-1975			Mean	Cut 1-1976
		Guelph	Thunder Bay			Ridgetown
Hallmark	61.8	63.0	75.7		66.8	60.3
Frode	67.0	65.8	78.2		70.3	70.0
Ina	65.9	65.8	77.8		69.8	71.7
Napier						65.4
Tardus II	62.7	66.6	77.2		68.8	69.1
Kay	67.5	68.2	76.4		70.7	72.3
K8-120	65.0	69.3	76.8		70.4	71.1
Kall	62.2	65.3	77.5		68.3	66.8
Dart	60.1	65.0	78.9		68.0	67.8
Kitamadori						65.0
Dayton	58.4	--	--		--	64.8
Ox 1					--	68.4
Sumas (PX 36)	64.5	--	--		--	73.2
Ottawa 6						74.8
S66-4-47/62	66.0	68.5	76.8		70.4	68.6
K8-118						68.1

Cut 1 - 1976, Ridgetown, Chemical Composition

Variety	Test No.	%					ppm		
		Protein	Ca	P	Mg	K	Mn	Cu	Zn
Frode	1034	11.4	.36	.29	.17	2.65	59	8	20
Frode	1039	11.1	.36	.31	.17	2.88	74	7	21
Kay	1034	12.6	.34	.31	.17	2.72	65	8	22
Kay	1039	11.5	.28	.30	.15	2.85	78	7	19

Timothy Varieties

CURRENT STATUS OF VARIETIES - OCTOBER 31, 1976

<u>Variety</u>	<u>Entered By</u>	<u>Official Status</u>	<u>Station Years Data</u>
Champ	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Climax	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Itasca	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Milton	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Timfor	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Toro	O.F.C.C.	Licensed & Rec., O.F.C.C.	-
Basho	Ottawa	Lic. & Deferred Recom.	27
Pronto	Nat. N.K.	Lic. & Deferred Recom.	24
N 7-126	Nat. N.K.	Supported for licence & Deferred Recom.	18
Richmond (MLM 17011)	M.L.M.	Lic. & Deferred Recom.	10
Murra	Pickseed	Supported for licence & Deferred Recom.	10
Medon	U. of Guelph		11
Senpoku	Ottawa R. S.		11
CIVBA (Winda)	Pickseed		5
CIV2A	Pickseed		5
Gusto	Pickseed		5
Mahndorfer	OSECO		5
Odenwalder	OSECO		1
MLM Tim H7	M.L.M.		1
Maris Polka	Nat. Seed Dev. Org.		1
MLM 17017	M.L.M.		0

Disposition of Varieties, November 1976:

Basho - Recommend in Pub. 296, 1977. Seed is now available
 N7-126 - Deferred recommendation
 Pronto - Deferred recommendation
 Richmond - Deferred recommendation

Medon
 Senpoku - No support for licensing or recommendation. Discontinue testing.

Murra - Discontinue testing

Climax - Remove from recommendations for 1979

Average Yields of Several Varieties

<u>Variety</u>	No. <u>Station-Years</u>	<u>Kg/ha</u>		
		<u>Cut 1</u>	<u>Aftermath</u>	<u>Total</u>
Basho	26	5727	2520	8247
Climax		5885	2087	7972
Richmond	10	5729	1804	7533
Climax		5651	1544	7195
Murra	10	5489	1656	7145
Climax		5651	1544	7195
Omnia	14	5507	1031	6538
Climax		5755	1352	7107
Pronto	21	5813	2307	8120
Climax		5835	2184	8019
Medon	11	5542	2013	7555
Senpoku		5283	2278	7561
Climax		5702	1938	7640

Timothy - Performance of Recommended Varieties

Yield (kg/ha) = 1973-'76

Variety	Southern Ontario ¹⁾			Northern Ontario ²⁾			Provincial		Mean
	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total	Cut 1	Cut 2	Total
Champ	6571	2880	9451	4952	2190	7142	5846	2352	8198
Climax	6300	2544	8844	5289	1938	7227	5936	1814	7750
Itasca	6807	2399	9206	5204	2012	7216	6149	1993	8142
Milton	6658	2488	9146	5100	2039	7193	5970	2105	8075
Toro	6306	2972	9278	4768	2404	7172	5656	2419	8075
Climax ³⁾	6146	2472	8618	5330	2194	7524	5784	2348	8132
Timfor	6495	2317	8812	5266	2748	8014	5948	2509	8457

1) 12 station years

2) 10 station years

3) 10 and 8 station years

Provincial Timothy Test - Seeded 1974¹⁾

Yield - kg/ha

Variety	1975		1976		Mean	
	Cut 1	Total	Cut 1	Total	Cut 1	Total
Champ	5701	7526	6826	8905	6262	8215
Climax	5690	7314	6484	8423	6087	7869
Itasca	5712	7504	6779	8547	6243	8025
Milton	5388	7291	7013	8847	6201	8071
Toro	5230	7112	6322	8473	5775	7794
Basho	5544	7190	6711	8970	6129	8079
Richmond	5723	7605	7229	9398	6476	8502
Murra	5645	7258	6344	8208	5995	7732
Amnia	5500	6675	6292	7726	6894	7202
N7-127	5410	6989	6210	7816	5810	7405
Medon	5388	6854	6887	8966	6134	7909
Senpoku	5488	7190	6722	8624	6105	7910
Winda (CIVBA)	4088	5186	4269	6360	4176	5773
CIV 2A	5253	6250	5820	7488	5535	6870
Gusto	4234	5253	4810	6541	4526	5899
Mahndorfer	5757	7213	6551	8315	6153	7764
Mean	5354	6899	6330	8225	5844	7563
L.S.D. (5%)	437	526	472	555	316	379

¹ Data from Ridgetown and Thunder Bay

Exp. 2750 Provincial Timothy Test, Guelph

<u>Seeded 1975</u> <u>Variety</u>	<u>Yields - 1976(kg/ha)</u>		
	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>
Champ	6625	1050	7676
Climax	7021	1039	8060
Milton	7212	1023	8235
Toro	7383	1375	8759
Itasca	7277	1037	8315
Timfor	6814	1004	7818
Odenwalder	6652	1157	7810
Mahndorfer	7077	973	8051
Basho	7667	1263	8931
MLM TIM H7	7722	814	8537
Maris Polka	7705	1127	8833
Medon	7133	1001	8134
CIV BA	4681	473	5154
CIV 2A	6051	706	6757
Gusto	5951	516	6467
Pronto	7409	1029	8439
Mean	6899	974	7873
L.S.D.	1356	216	1379
C.V. (%)	13.8	15.5	12.3

Exp. 7077 Provincial Timothy Test, Thunder Bay

Yield - kg/ha

<u>Variety</u>	<u>1976</u>			<u>1975-76</u>	
	<u>Cut 1</u>	<u>Cut 2</u>	<u>Total</u>	<u>Cut 1</u>	<u>Total</u>
Richmond	7243	1035	8279	5754	6727
Basho	6749	1125	7875	5368	6339
Senpoku	6866	898	7765	5399	6296
Itasca	6408	725	7133	5105	5925
Toro	5912	1215	7127	4874	5888
N7-127	6075	729	6805	4838	5722
Champ	7055	1025	8081	5541	6413
Milton	6863	875	7739	5280	6171
Climax	6237	943	7181	5117	6034
Medon	7015	980	7995	5452	6426
Winda	3805	1286	5092	3328	4436
CIV 2A	5622	770	6393	4602	6349
Gusto	4898	782	5680	3943	4739
Mahndorfer	6576	912	7488	5288	6151
Murra	6096	921	7017	5089	5856
Omnia	6278	813	7091	5116	5961
Engmo	6791	637	7428		
Mean	6264	922	7186	5006	5902
L.S.D. (5%)	758	299	787		
C.v. (%)	8.51	22.8	7.71		

Expt. 8405 Provincial Timothy Test New Liskeard 1973 Seeding

<u>Variety</u>	<u>Yield (kg/ha)</u>
	<u>Cut 1</u>
Climax	4678
T-49	4339
Timfor	4262
Milton	4175
MLM	4173
T-93	4154
Omnia	4058
Itasca	4012
N7-127	4007
N7-126	3945
Champ	3892
Heilbrink	3826
Toro	3611
Medon	3564
Murra	3435
Barmere	3398
Senpoku	3229

L.S.D. 5%	698.
Mean	3927.
C.V. (%)	10.7

Exp. 1032. Provincial Timothy Test, Ridgetown

<u>Variety</u>				<u>1975-1976</u>	
	<u>Cut 1</u> <u>kg/ha</u>	<u>Cut 2</u> <u>kg/ha</u>	<u>Total</u> <u>kg/ha</u>	<u>Cut 1</u> <u>kg/ha</u>	<u>Total</u> <u>kg/ha</u>
Omnia	6306	2052	8359	6672	8444
Winda	4731	2895	7626	5024	7111
Gusto	4729	2672	7402	5109	7059
Richmond	7214	3301	10,516	7198	10,277
Itasca	7150	2810	9960	7380	10,125
Murra	6591	2806	9397	6901	9608
Climax	6731	2932	9664	7057	9704
Ottawa #9	6672	3391	10,064	6891	9819
Milton	7161	2792	9953	7122	9970
Mahndorfer	6527	2614	9141	7018	9376
Champ	6595	3133	9729	6983	10,016
Toro	6732	3086	9818	6676	9700
Senpoku	6577	2904	9482	6812	9523
CIV 2A	6017	2565	8582	6468	8391
N7-127	6344	2483	8827	6783	9087
Medon	6757	3178	9936	6817	9392
Mean	6427	2851	9278		
L.S.D. (5%)	566	574	792		
C.V.	6.17	14.1	5.98		

I.V.D. (%), Cut 1 - Timothy Varieties

<u>Variety</u>	1975	<u>Ridgetown</u>	<u>1976</u>		<u>Mean</u>
	<u>Mean</u>		<u>Guelph</u>	<u>Thunder Bay</u>	
Champ	67.2 ^a	69.8	57.2	74.6	67.2
Climax	67.6 ^a	70.3	57.8	76.9	68.3
Itasca	67.4 ^a	70.7	57.0	70.2	66.0
Milton	67.0 ^a	69.4	56.6	73.8	66.6
Timfor	61.6 ^b	--	58.0	--	--
Toro	66.7 ^a	67.0	57.3	72.8	65.7
Basho	72.6 ^b	68.0	58.4	68.8	65.1
Pronto	--	--	60.8	--	
Richmond	66.6 ^a	64.6	--	72.7	
Murra	67.8 ^a	69.2	--	73.8	
Medon	67.6 ^a	70.0	58.6	77.4	68.7
Senpoku	67.2 ^a	70.4	--	74.6	
Winda	76.0 ^b	69.6	66.0	79.0	71.5
ClV 2A	72.8 ^b	70.8	61.6	75.2	69.2
Gusto	75.8 ^b	74.6	66.7	79.3	73.5
Mahndorfer	72.4 ^b	72.1	59.4	75.0	68.8
Odenwalder	--	--	56.9	--	
MLM Tim H7	--	--	61.4	--	
Maris Polka	--	--	60.5	--	
Omnia	69.1 ^a	71.2	--	75.0	
N7-127	68.6 ^a	70.6	--	72.2	
Engmo	78.4 ^b	--	--	79.0	

a Mean of 4 locations

b Mean of 2 locations

Cut 1, 1976 - Chemical Composition

Variety	%					ppm		
	<u>Protein</u>	<u>Ca</u>	<u>P</u>	<u>Mg</u>	<u>K</u>	<u>Mn</u>	<u>Cu</u>	<u>Zn</u>
Bulked:								
Itasca	9.6	.29	.24	.12	2.15	27	4	27
Milton	10.0	.38	.25	.11	2.24	28	5	25
Toro	9.4	.42	.23	.12	2.05	27	3	23
Richmond	11.5	.47	.24	.12	2.12	31	4	28
Murra	10.6	.30	.23	.11	2.10	32	4	23
Medon	10.0	.27	.26	.11	2.31	27	5	26
Senpoku	11.4	.45	.26	.12	2.17	35	5	27
Climax-RCAT	9.5	.26	.23	.10	2.51	50	7	26
-Guelph	7.2	.18	.16	.08	1.80	20	6	19
-Thunder Bay	12.6	.32	.24	.12	2.26	32	4	19
Champ-RCAT	9.2	.33	.22	.11	2.17	55	7	24
-Guelph	6.4	.28	.21	.11	2.26	20	5	16
-Thunder Bay	12.3	.33	.22	.12	2.12	29	5	18

Varieties of Tall Fescue, Reed Canary and Brome For Hay and Late Pastures

Kapuskasing Expt. 6709, 1974 Seeding

1975 Harvest

1976 Harvest

Pounds Per acre D.M. (Total Yield)

SPECIES - Varieties		ZERO NITROGEN		NITROGEN	
		Season Total	Season Total	Season Total	Season Total
		1975	1976	1975	1976
		Hay + Hay	Hay + Hay	Hay + Hay	Hay + Hay
Tall Fescue	Jebel	825	---	2963	33
	Kasba	1147	---	3254	---
	Fawn	2703	62	5531	3348
	Kentucky 31	2694	27	6117	3699
Reed Canary	Frontier	3047	535	5257	5617
	Rise	3125	616	5953	6109
	Castor	3052	660	4834	5535
Brome Grass	Magna	3275	778	6575	5450
	Saratoga	2970	586	5787	4801
		Hay + Pasture	Hay + Pasture	Hay + Pasture	Hay + Pasture
Tall Fescue	Jebel	1320	---	2147	1005
	Kasba	1460	---	2168	1339
	Fawn	3112	1956	4247	5947
	Kentucky 31	4227	1678	4795	6002
Reed Canary	Frontier	5271	2696	6795	7876
	Rise	5729	2735	6109	7364
	Castor	4908	3518	5616	7119
Brome Grass	Magna	5021	3207	6950	6549
	Saratoga	4601	2834	5944	6003

Varieties of Tall Fescue, Reed Canary and Brome For Hay and Late Pasture

Kapuskasing Test 6709, 1974 Seeding

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES - Varieties	ZERO NITROGEN			NITROGEN		
	Harvest 1	Harvest 2	Season	Harvest 1	Harvest 2	Season
	Hay June 22	Hay Aug.30	Total	Hay June 22	Hay Aug.30	Total
Tall Fescue						
Jebel	---	---	---	33	---	33
Kasba	---	---	---	---	---	---
Fawn	---	62	62	778	2570	3348
Kentucky 31	---	27	27	940	2759	3699
Reed Canary						
Frontier	289	246	535	2654	2963	5617
Rise	320	296	616	2986	3123	6109
Castor	405	255	660	2689	2846	5535
Brome Grass						
Magna	691	87	778	2107	3343	5450
Saratoga	446	140	586	1659	3142	4801
	Hay	Pasture		Hay	Pasture	
	July 21	Sept. 28		July 21	Sept. 28	
Tall Fescue						
Jebel	---	---	---	1005	---	1005
Kasba	---	---	---	1339	---	1339
Fawn	1956	00	1956	3345	2602	5947
Kentucky 31	1629	49	1678	3506	2496	6002
Reed Canary						
Frontier	2370	326	2696	5482	2394	7876
Rise	2504	231	2735	5172	2192	7364
Castor	2516	1002	3518	4975	2144	7119
Brome Grass						
Magna	3207	00	3207	4633	1916	6549
Saratoga	2766	68	2834	3924	2109	6003

Varieties of Tall Fescue, Reed Canary and Brome for Hay and Late Pasture

Thunder Bay Expt. 7076, Seeded 1974

1975 Harvest

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	ZERO NITROGEN		NITROGEN	
		SEASON	SEASON	SEASON	SEASON
		TOTAL	TOTAL	TOTAL	TOTAL
		1975	1976	1975	1976
		Hay + Hay	Hay + Hay	Hay + Hay	Hay + Hay
Tall Fescue	Jebel	527	---	570	---
	Kasba	405	---	310	---
	Fawn	2944	2214	4020	5518
	Kentucky 31	3439	2153	4829	6626
Reed Canary	Frontier	4431	2018	5100	5841
	Rise	4114	1806	5684	6340
	Castor	3333	1491	5074	5692
Brome Grass	Magna	4216	2737	5277	6623
	Saratoga	4339	2867	6164	7856
		<u>Hay + Pasture</u>	<u>Hay + Pasture</u>	<u>Hay + Pasture</u>	<u>Hay + Pasture</u>
Tall Fescue	Jebel	223	---	182	---
	Kasba	149	---	196	---
	Fawn	4679	4701	5115	6663
	Kentucky 31	5048	5195	5613	7302
Reed Canary	Frontier	5727	6169	6971	8207
	Rise	4578	5007	6971	8400
	Castor	4061	4645	6430	8283
Brome Grass	Magna	5912	6614	7135	7966
	Saratoga	6000	6825	7392	8911

Varieties of Tall Fescue, Reed Canary and Brome For Hay and Late Pasture

Thunder Bay Expt. 7076, Seeded 1974
Pounds Per Acre D.M. (Total Yield)

1976 Harvest

SPECIES	Varieties	ZERO NITROGEN			NITROGEN		
		Harvest 1	Harvest 2	Season Total	Harvest 1	Harvest 2	Season Total
		Hay	Hay		Hay	Hay	
		June 28	Sept. 1		June 28	Sept. 1	
Tall Fescue	Jebel	---	---	---	---	---	---
	Kasba	---	---	---	---	---	---
	Fawn	1847	367	2214	4366	1152	5518
	Kentucky 31	1847	306	2153	5235	1391	6626
Reed Canary	Frontier	1556	462	2018	4692	1149	5841
	Rise	1372	434	1806	4736	1604	6340
	Castor	1093	398	1491	4438	1254	5692
	Magna	2498	239	2737	5699	924	6623
Brome Grass	Saratoga	1595	272	2867	6392	1464	7856
		<u>Hay</u> <u>July 14</u>	<u>Pasture</u> <u>Sept. 9</u>		<u>Hay</u> <u>July 14</u>	<u>Pasture</u> <u>Sept. 9</u>	
Tall Fescue	Jebel	---	---	---	---	---	---
	Kasba	---	---	---	---	---	---
	Fawn	4180	521	4701	5637	1026	6663
	Kentucky 31	4706	489	5195	6304	998	7302
Reed Canary	Frontier	5703	466	6169	7265	942	8207
	Rise	4688	319	5007	7351	1049	8400
	Castor	4273	372	4645	7487	796	8283
	Magna	6226	388	6614	7158	808	7966
Brome Grass	Saratoga	6480	345	6825	7382	1529	8911

Varieties of Tall Fescue, Reed Canary and Brome for Hay and Late Pasture

Guelph Expt. 49182, Seeded 1974

1975 Harvest
1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES - Varieties		ZERO NITROGEN		NITROGEN	
		Season Total	Season Total	Season Total	Season Total
		1975	1976	1975	1976
		Hay + Hay	Hay + Hay	Hay + Hay	Hay + Hay
Tall Fescue	Fawn	7696	6309	9908	10819
	Kentucky 31	7988	4733	10486	9668
Reed Canary	Frontier	7520	3572	9249	9623
	Rise	6679	3154	8695	9009
	Castor	7159	3352	8432	8922
Brome Grass	Magna	8477	3345	10799	10167
	Saratoga	9452	4813	10593	10686
		Hay + Pasture	Hay + Pasture	Hay + Pasture	Hay + Pasture
Tall Fescue	Fawn	7267	5083	9774	9394
	Kentucky 31	8059	5281	10645	9149
Reed Canary	Frontier	7999	6522	9361	10292
	Rise	8190	6527	8708	10113
	Castor	7098	5785	8509	9569
Brome Grass	Magna	9820	7056	9713	10443
	Saratoga	9408	6484	9689	10489

Varieties of Tall Fescue, Reed Canary and Brome For Hay and Late Pasture

Guelph Expt. 49182, Seeded 1974

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES - Varieties		ZERO NITROGEN			NITROGEN		
		Harvest 1	Harvest 2	Season	Harvest 1	Harvest 2	Season
		Hay June 15	Hay Aug. 25	Total	Hay June 15	Hay Aug. 25	Total
Tall Fescue	Fawn	5364	945	6309	7460	3359	10819
	Kentucky 31	4137	596	4733	6603	3065	9668
Reed Canary	Frontier	2774	798	3572	5916	3707	9623
	Rise	2358	796	3154	5707	3302	9009
	Castor	2449	903	3352	5561	3361	8922
Brome Grass	Magna	2937	408	3345	6974	3193	10167
	Saratoga	4093	720	4813	7216	3470	10686
		Hay July 11	Pasture Oct. 14		Hay July 11	Pasture Octo. 14	
Tall Fescue	Fawn	4389	694	5083	6855	2539	9394
	Kentucky 31	4820	461	5281	7173	1976	9149
Reed Canary	Frontier	6052	470	6522	8404	1888	10292
	Rise	6014	513	6527	8215	1798	10013
	Castor	5399	386	5785	7728	1841	9569
Brome Grass	Magna	6974	82	7056	8620	1823	10443
	Saratoga	6117	367	6484	8052	2437	10489

Species For Early and Late Pastures

Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	HARVEST 1 (Early Pasture)		HARVEST 2 (Hay Harvest)		HARVEST 3 (Late Pasture)	
		KAP.	N.L.C.A.T.	KAP.	N.L.C.A.T.	KAP.	N.L.C.A.T.
		Seeded '73	Seeded '73	Seeded '73	Seeded '73	Seeded '73	Seeded '73
		74,75,76	74,75,76	74,75,76	74,75,76	74,75,76	74,75,76
		3 Yr.Ave.	3 Yr. Ave.	3 Yr.Ave.	3 Yr. Ave.	3 Yr.Ave.	3 Yr.Ave.
Alfalfa	Saranac	809	2451	2562	2517	1800	Data not available
	Vernal	861	2747	2642	2472	1806	
Birdsfoot Trefoil	Maitland	* 668	2283	2238	2296	*1387	
	Empire	* 604	2365	3751	2518	1163	
Crown Vetch	Penngift	* 183	1923	1331	1640		
Cicer Milk Vetch	Oxley	* 217	2275	1331	1433		
Sainfoin	Morton T.	* 469	2200	756	1122		
	Krasnodar	632	2657	1869	1509	472	
Brome Grass	Saratoga	1364	3321	2218	1455	1114	
Orchard Grass	Frode	745	* 2501	2150	1556	1503	
	Kay	1203	2219	2343	1383	1266	
Tall Fescue	Common	521	2028	1913	1611	890	
Reed Canary	Frontier	989	3537	1565	1613	779	
Wild Rye	Altai	777	2301	1800	1348	894	
Wheat Grass	Sodar Streambank	818	2197	1896	1047	813	

* 2 Year Ave.

Species For Early and Late Pastures

Kapuskasing Expt. 6706, Seeded 1973
Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	HARVEST 1 (Early Pasture)				HARVEST 2 (Hay Harvest)				HARVEST 3 (Late Pasture)			
		1974	1975	1976	3 Yr.	1974	1975	1976	3 Yr.	1974	1975	1976	3 Yr.
			May 29	June 4	Ave.		July 14	Aug. 3	Ave.				Ave.
Alfalfa	Saranac	1215	524	688	809	2495	2466	2726	2562	1527	1999	1873	1800
	Vernal	953	556	1074	861	2344	2096	3487	2642	1231	1952	2234	1806
Trefoil	Maitland	988		349	*668	2844	1785	2086	2238	1179	1596		*1387
	Empire	791		418	*604	3434	4223	3596	3751	529	2386	574	1163
Crown Vetch	Penngift	34		332	*183	1156	1846	992	1331				
Cicer Milk Vetch	Oxley	18		417	*217	1127	998	1868	1331				
Sainfoin	Morton T.	721		217	*469	1426	258	584	756	290			
	Krasnodar	971	478	447	632	2639	1100	1867	1869	340	733	343	472
Brome Grass	Saratoga	988	1440	1663	1364	2928	1097	2630	2218	679	1712	951	1114
Orchard Grass	Frode	807	920	507	745	2682	666	3101	2150	1273	1786	1449	1503
	Kay	1563	1254	792	1203	2799	1078	3151	2343	1078	1643	1076	1266
Tall Fescue	Common	457	766	341	521	2654	944	2140	1913	735	1078	858	890
Reed Canary	Frontier	597	1128	1243	989	1731	1154	1811	1565	165	1595	576	779
Wild Rye	Altai	207	964	1159	777	1760	1182	2457	1800	781	1145	1025	894
Wheat Grass	Sodar Streambank	166	1169	1120	818	1936	1189	2562	1896	221	1080	1138	813

* 2 Year Ave.

Species For Early and Late Pastures

Kapuskasing Expt. 6706, Seeded 1973

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	Harvest 1 June 4	Harvest 2	Harvest 3	Season Total
Alfalfa	Saranac	688	2726	1873	5287
	Vernal	1074	3487	2234	6795
Trefoil	Maitland	349	2086		2435
	Empire	418	3596	574	4588
Crown Vetch	Penngift	332	992		1324
Cicer Milk Vetch	Oxley	417	1868		2285
Sainfoin	Morton T.	217	584		801
	Krasnodar	447	1867	343	2657
Brome Grass	Saratoga	1663	2630	951	5244
Orchardgrass	Frode	507	3101	1449	5057
	Kay	792	3151	1076	5019
Tall Fescue	Common	341	2140	858	3339
Reed Canary	Frontier	1243	1811	576	3630
Wild Rye	Altai	1159	2457	1025	4641
Wheat Grass	Sodar Streambank	1120	2562	1138	4820

Species For Early and Late Pastures

N.L.C.A.T. Expt. 8004, Seeded 1973
Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	HARVEST 1 (Early Pasture)				HARVEST 2 (Hay Harvest)				HARVEST 3 (Late Pasture)			
		1974 July 12	1975 May 30	1976 June 10	3 Yr. AVE.	1974 Oct.1	1975 July 4	1976 July 30	3 Yr. AVE.	1974 Sept.3	1975	1976	3 Yr. AVE.
Alfalfa	Saranac	3100	1495	2759	2451	2582	2059	2911	2517		1393		
	Vernal	3838	1649	2754	2747	2148	2309	2959	2472		977		
Trefoil	Maitland	3517	1359	1973	2283	1504	2386	2997	2296		405		
	Empire	3730	1103	2261	2365	2034	2405	3115	2518		593		
Crown Vetch	Penngift	2379	765	2624	1923	1333	1680	1906	1640		255		
Cicer Milk Vetch	Oxley	2735	1078	3012	2275	806	1637	1855	1433		220		
Sainfoin	Morton T.	3065	663	2871	2200	657	1096	1613	1122		232		
	Krasnodar	3670	1191	3109	2657	1607	1365	1555	1509		503		
Brome Grass	Saratoga	4997	1607	3360	3321	1672	728	1965	1455		531		
Orchard Grass	Frode	3801	1201	---	*2501	1665	1453	1549	1556		862		
	Kay	3386	1608	1664	2219	1222	1370	1558	1383		836		
Tall Fescue	Common	4192	1119	773	2028	1277	1946	1611	1611		700		
Reed Canary	Frontier	5188	1971	3453	3537	1308	1083	2447	1613		946		
Wild Rye	Altai	3595	915	2392	2301	1095	1224	1725	1348		206		
Wheat Grass	Sodar Streambank	2960	846	2785	2197	1092	902	1146	1047		120		

Data not available

Data not available

* 2 Year Ave.

Species For Early and Late Pastures

N.L.C.A.T. Expt. 8004, Seeded 1973

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

SPECIES	Varieties	Harvest 1 June 10	Harvest 2 July 30	Harvest 3	Season Total
Alfalfa	Saranac	2759	2911	Data not available	5670
	Vernal	2754	2959		5713
Trefoil	Maitland	1973	2997		4970
	Empire	2261	3115		5376
Crown Vetch	Penngift	2624	1906		4530
Cicer Milk Vetch	Oxley	3012	1855		4867
Sainfoin	Morton T.	2871	1613		4484
	Krasnodar	3109	1555		4664
Brome Grass	Saratoga	3360	1965		5325
Orchard Grass	Frode	---	1549		1549
	Kay	1664	1558		3222
Tall Fescue	Common	773	1611		2384
Reed Canary	Frontier	3453	2447		5900
Wild Rye Grass	Altai	2392	1725		4117
Wheat Grass	Sodar Streambank	2785	1146		3931

Cicer Milk Vetch Variety Trials

Pounds D.M. Per Acre (Total Yield)

1976 Harvest

SPECIES	Varieties	GUELPH Expt.49171 Seeded 1974		GUELPH Expt.49172 Seeded 1975		OTTAWA Expt. Seeded 1974		N.L.C.A.T. Expt. 8602 Seeded 1975		THUNDER BAY Expt. 7086 Seeded 1975		GRAND AVE.	GRAND AVE.
		Hvst.1	Hvst.2	Hvst.1	Hvst.2	Hvst.1	Hvst.2	Hvst.1	Hvst.2	Hvst.1	Hvst.2	Hvst.1	Hvst.2
		June 9	July 27	June 24	Sept.2	June 29		June 22		July 6	Aug.12	June 24	
Cicer Milk Vetch	Lutana	3999	3413	5180	3493	2114	Data not	3621	Data not	4294	1612	3842	2839
	O.S. 26	3925	3288	4934	3354	2644	available	2224	available	3486	1250	3443	2631
	Oxley	3205	2542	4083	2509	2565		2538		2947	694	3068	1915
	Wyoming	4031	3415	5242	3674	2343		3506		4470	1355	3918	2815
	6954	3471	3013									3471	3013
	7104	3843	3188									3843	3188
Crown Vetch	Penngift	3320	3462	5573	4268							4446	3865
	Emerald	3911	3979	5104	4179							4507	4079
	Chemung	4211	3811	5606	4260							4908	4035
Birdsfoot Trefoil	Leo	3603	2913	4552	2940	2950		5579		4785	1580	4294	2478
Alfalfa	Vernal	3867	3350	3656	2693							3761	3021
	Angus					2958						2958	

Cicer Milk Vetch Variety Test

1976 Harvest

Thunder Bay Expt. 7086, 1975 Seeding

Pounds D.M. Per Acre (Total Yield)

SPECIES	VARIETIES	Cut 1 (July 6)	Cut 2 (Aug. 12)	Season Total
Cicer Milk Vetch	Lutana	4294	1612	5906
	O.S. 26	3486	1250	4736
	Oxley	2947	694	3641
	Wyoming	4470	1355	5825
Birdsfoot Trefoil	Leo	4785	1580	6365

Cicer Milk Vetch Evaluation Study

Guelph Expt. 49171, Seeded 1974

1976 Harvest

Pounds D.M. Per Acre (Total Yield)

SPECIES -	Varieties	Harvest 1 June 9	Harvest 2 July 27	Season Total
Cicer Milk Vetch	Lutana	3999	3413	7412
	O.S. 26	3925	3288	7213
	6954	3471	3013	6484
	7104	3843	3188	7031
	Oxley	3205	2542	5747
	Wyoming	4031	3415	7446
Crown Vetch	Penngift	3320	3462	6782
	Emerald	3911	3979	7890
	Chemung	4211	3811	8022
Birdsfoot Trefoil	Leo	3603	2913	6516
Alfalfa	Vernal	3867	3350	7217

Cicer Milk Vetch Evaluation Study

Guelph Expt. 49172, Seeded 1975

1976 Harvest

Pounds D.M. Per Acre (Total Yield)

SPECIES	Varieties	Harvest 1 June 24	Harvest 2 Sept.2	Season Total
Cicer Milk Vetch	Lutana	5180	3493	8673
	O.S. 26	4934	3354	8288
	Oxley	4083	2509	6592
	Wyoming	5242	3674	8916
Crown Vetch	Penngift	5573	4268	9841
	Emerald	5104	4179	9283
	Chemung	5606	4260	9866
Birdsfoot Trefoil	Leo	4552	2940	7492
Alfalfa	Vernal	3656	2693	6349

Early Late Bite

Pounds Per Acre D.M. (Total Yield)

HARVEST 1

(Early Pasture)

ZERO NITROGEN

SPECIES - VARIETIES

	Guelph Seeded 1974 1975-1976 2 Yr. Ave. May 20	Kapuskasing Seeded 1974 1975-1976 2 Yr. Ave. June 1	N.L.C.A.T. Seeded 1974 1975-1976 2 Yr. Ave. July 6	Thunder Bay Seeded 1974 1975-1976 2 Yr. Ave. May 24	Grand Ave 1975-1976 2 Yr. Ave. June 5
Empire Trefoil + Fawn Tall Fescue	1960	837	2916	563	1569
Empire Trefoil + Frontier Reed Canary	1717	912	3179	885	1673
Empire Trefoil + Saratoga Brome	2159	1140	3483	824	1901
Fawn Tall Fescue	1880	698	2545	517	1410
Frontier Reed Canary	1687	1086	3332	777	1720
Saratoga Brome	2243	1146	3819	834	2010

NITROGEN

Empire Trefoil + Fawn Tall Fescue	2406	1007	3255	769	1859
Empire Trefoil + Frontier Reed Canary	2310	1285	3917	1514	2256
Empire Trefoil + Saratoga Brome	2599	1451	4033	1187	2317
Fawn Tall Fescue	2503	984	3383	834	1926
Frontier Reed Canary	2570	1585	4020	1741	2479
Saratoga Brome	2969	1632	4506	1403	2627

Early Late Bite

Pounds Per Acre D.M. (Total Yield)

HARVEST 2

(Hay Harvest)

ZERO NITROGEN

SPECIES - VARIETIES

	Guelph Seeded 1974 1975-1976 2 Yr. Ave. July 18	Kapuskasing Seeded 1974 1975-1976 2 Yr. Ave. Aug. 1	N.L.C.A.T. Seeded 1974 1975-1976 2 Yr. Ave. Aug. 9	Thunder Bay Seeded 1974 1975-1976 2 Yr. Ave. July 12	Grand Ave. 1975-1976 2 Yr. Ave. July 26
Empire Trefoil + Fawn Tall Fescue	3945	3042	1814	3609	3102
Empire Trefoil + Frontier Reed Canary	3586	3186	1568	2664	2751
Empire Trefoil + Saratoga Brome	3969	3368	1368	3406	3028
Fawn Tall Fescue	2118	857	340	1948	1316
Frontier Reed Canary	1431	999	555	1255	1060
Saratoga Brome	1897	1092	1073	1828	1472

NITROGEN

Empire Trefoil + Fawn Tall Fescue	4417	3128	1930	4091	3391
Empire Trefoil + Frontier Reed Canary	3608	3070	1717	3102	2874
Empire Trefoil + Saratoga Brome	3981	3531	1946	3691	3287
Fawn Tall Fescue	2924	2197	1512	3200	2458
Frontier Reed Canary	1892	1631	1713	2746	1995
Saratoga Brome	2310	2062	1861	3248	2370

Early-Late Bite

Pounds Per Acre D.M. (Total Yield)

HARVEST 3

Late Pasture

ZERO NITROGEN

SPECIES - VARIETIES	Guelph	Kapuskasing	N.L.C.A.T.	Thunder Bay
	Seeded 1974 1975-1976 2 Yr. Ave. Oct. 16	Seeded 1974 1975-1976 2 Yr. Ave.	Seeded 1974 1975-1976 2 Yr. Ave.	Seeded 1974 1975-1976 2 Yr. Ave.

Empire Trefoil + Fawn Tall Fescue	2544	1020	Data not available	556
Empire Trefoil + Frontier Reed Canary	1791	1108		550
Empire Trefoil + Saratoga Brome	1896	991		698
Fawn Tall Fescue	1710	321		420
Frontier Reed Canary	969	118		455
Saratoga Brome	1196	96		533

NITROGEN

Empire Trefoil + Fawn Tall Fescue	2924	1331		1048
Empire Trefoil + Frontier Reed Canary	1950	1234		1116
Empire Trefoil + Saratoga Brome	2164	1363		921
Fawn Tall Fescue	2691	1338		1014
Frontier Reed Canary	1559	584		1052
Saratoga Brome	1689	771		1248

Early-Late Bite

Kapuskasing Expt. 6710, Seeded 1974

Pounds Per Acre D.M. (Total Yield)

ZERO NITROGEN

SPECIES - VARIETIES	HARVEST 1		HARVEST 2		HARVEST 3		SEASON TOTAL	
	Early Pasture		Hay Harvest		Late Pasture			
	1975	1976	1975	1976	1975	1976	1975	1976
	May 29	June 4	July 29	Aug. 3				
Empire Trefoil + Fawn Tall Fescue	1420	255	2830	3255	1408	632	5658	4142
Empire Trefoil + Frontier Reed Canary	1393	431	3025	3348	1468	749	5886	4528
Empire Trefoil + Saratoga Brome	1575	705	3033	3703	1247	635	5955	5043
Fawn Tall Fescue	1190	206	919	795	589	53	2698	1054
Frontier Reed Canary	1263	909	933	1065	237	00	2433	1974
Saratoga Brome	1400	893	1336	849	192	00	2928	1742

NITROGEN

Empire Trefoil + Fawn Tall Fescue	1455	560	2982	3274	1506	1156	5943	4990
Empire Trefoil + Frontier Reed Canary	1608	962	2865	3275	1479	990	5952	5227
Empire Trefoil + Saratoga Brome	1632	1270	3455	3608	1285	1441	6372	6319
Fawn Tall Fescue	1021	947	1934	2461	1204	1473	4159	4881
Frontier Reed Canary	1598	1572	1491	1772	568	601	3657	3945
Saratoga Brome	1348	1916	2070	2054	745	798	4163	4768

Early-Late Bite

Kapuskasing (Expt. 6710, Seeded 1974)
Pounds Per Acre D.M. (Total Yield)

1976 Harvest

ZERO NITROGEN

SPECIES - VARIETIES	Harvest 1	Harvest 2	Harvest 3	Season Total
	June 4	Aug. 3		
Empire Trefoil + Fawn Tall Fescue	255	3255	632	4142
Empire Trefoil + Frontier Reed Canary	431	3348	749	4528
Empire Trefoil + Saratoga Brome	705	3703	635	5043
Fawn Tall Fescue	206	795	53	1054
Frontier Reed Canary	909	1065	00	1974
Saratoga Brome	893	849	00	1742

NITROGEN

Empire Trefoil + Fawn Tall Fescue	560	3274	1156	4990
Empire Trefoil + Frontier Reed Canary	962	3275	990	5227
Empire Trefoil + Saratoga Brome	1270	3608	1441	6319
Fawn Tall Fescue	947	2461	1473	4881
Frontier Reed Canary	1572	1772	601	3945
Saratoga Brome	1916	2054	798	4768

Early-Late Bite

Thunder Bay Expt. 7075, Seeded 1974

Pounds Per Acre D.M. (Total Yield)

ZERO NITROGEN

SPECIES - VARIETIES	HARVEST 1		HARVEST 2		HARVEST 3		SEASON TOTAL	
	Early Pasture		Hay Harvest		Late Pasture		1975	1976
	1975	1976	1975	1976	1975	1976		
	May 21	May 27	July 10	July 14	Sept. 12	Sept. 8		
Empire Trefoil + Fawn Tall Fescue	848	279	2975	4243	525	587	4348	5109
Empire Trefoil + Frontier Reed Canary	1389	381	2257	3072	514	586	4160	4039
Empire Trefoil + Saratoga Brome	1047	601	3380	3433	724	673	5151	4707
Fawn Tall Fescue	709	326	1888	2009	223	617	2820	2952
Frontier Reed Canary	1197	357	1557	954	394	517	3148	1828
Saratoga Brome	930	739	2276	1381	627	440	3833	2560

NITROGEN

Empire Trefoil + Fawn Tall Fescue	948	591	3264	4918	706	1391	4918	6900
Empire Trefoil + Frontier Reed Canary	1655	1373	2797	3408	1105	1127	5557	5908
Empire Trefoil + Saratoga Brome	1069	1305	3398	3985	1011	831	5478	6121
Fawn Tall Fescue	780	889	2385	4015	802	1226	3967	6130
Frontier Reed Canary	1802	1680	2646	2846	1101	1004	5549	5530
Saratoga Brome	1122	1684	3086	3410	1408	1089	5616	6183

Early-Late Bite

Thunder Bay (Expt. 7075, Seeded 1974)

1976 Harvest

Pounds Per Acre D.M. (Total Yield)

ZERO NITROGEN

SPECIES - VARIETIES	Harvest 1	Harvest 2	Harvest 3	Season Total
	May 27	July 14	Sept. 18	
Empire Trefoil + Fawn Tall Fescue	279	4243	587	5109
Empire Trefoil + Frontier Reed Canary	381	3072	586	4039
Empire Trefoil + Saratoga Brome	601	3433	673	4707
Fawn Tall Fescue	326	2009	617	2952
Frontier Reed Canary	357	954	517	1828
Saratoga Brome	739	1381	440	2560

NITROGEN

Empire Trefoil + Fawn Tall Fescue	591	4918	1391	6900
Empire Trefoil + Frontier Reed Canary	1373	3408	1127	5908
Empire Trefoil + Saratoga Brome	1305	3985	831	6121
Fawn Tall Fescue	889	4015	1226	6130
Frontier Reed Canary	1680	2846	1004	5530
Saratoga Brome	1684	3410	1089	6183

Early-Late Bite

N.L.C.A.T. Expt. 8003, Seeded 1974
Pounds Per Acre D.M. (Total Yield)

1976 Harvest

ZERO NITROGEN

SPECIES - VARIETIES	Harvest 1	Harvest 2	Harvest 3	Season Total
	June 9	July 30		
Empire Trefoil + Fawn Tall Fescue	1855	3141		4996
Empire Trefoil + Frontier Reed Canary	2240	2616	Data not available	4856
Empire Trefoil + Saratoga Brome	2759	2149		4908
Fawn Tall Fescue	1023	439		1462
Frontier Reed Canary	1973	764		2737
Saratoga Brome	2725	1561		4286

NITROGEN

Empire Trefoil + Fawn Tall Fescue	2433	3154		5587
Empire Trefoil + Frontier Reed Canary	3361	2305		5666
Empire Trefoil + Saratoga Brome	4173	3277		7450
Fawn Tall Fescue	2122	2223		4345
Frontier Reed Canary	3530	2354		5884
Saratoga Brome	4365	3074		7439

Early-Late Bite

Guelph Expt. 49181, Seeded 1974
Pounds Per Acre D.M. (Total Yield)

1976 Harvest

ZERO NITROGEN

SPECIES - VARIETIES	Harvest 1	Harvest 2	Harvest 3	Season
	May 19	July 18	Oct. 13	Total
Empire Trefoil + Fawn Tall Fescue	1737	3700	1852	7289
Empire Trefoil + Frontier Reed Canary	1569	3475	1344	6388
Empire Trefoil + Saratoga Brome	1538	3763	1365	6666
Fawn Tall Fescue	1493	1822	646	3961
Frontier Reed Canary	1304	1612	336	3252
Saratoga Brome	1319	2047	271	3637

NITROGEN

Empire Trefoil + Fawn Tall Fescue	2241	4259	2594	9094
Empire Trefoil + Frontier Reed Canary	2023	3520	1714	7257
Empire Trefoil + Saratoga Brome	1986	3779	1894	7659
Fawn Tall Fescue	2314	3161	2241	7716
Frontier Reed Canary	2211	2213	1447	5871
Saratoga Brome	2062	2673	1377	6112

Early-Late Bite

Guelph Expt. 49181 Seeded 1974
Pounds Per Acre D.M. (Total Yield)

ZERO NITROGEN

SPECIES	- VARIETIES	HARVEST 1		HARVEST 2		HARVEST 3		SEASON	
		Early Pasture		Hay Harvest		Late Pasture		TOTAL	
		1975	1976	1975	1976	1975	1976	1975	1976
		May 21	May 19	July 18	July 18	Oct. 19	Oct. 13		
Empire Trefoil +	Fawn Tall Fescue	2184	1737	4191	3700	3236	1852	9611	7289
Empire Trefoil +	Frontier Reed Canary	1866	1569	3697	3475	2238	1344	7801	6388
Empire Trefoil +	Saratoga Brome	2780	1538	4176	3763	2428	1365	9384	6666
	Fawn Tall Fescue	2267	1493	2414	1822	2774	646	7455	3961
	Frontier Reed Canary	2070	1304	1250	1612	1602	336	4922	3252
	Saratoga Brome	3167	1319	1747	2047	2122	271	7036	3637

NITROGEN

Empire Trefoil +	Fawn Tall Fescue	2572	2241	4575	4259	3254	2594	10401	9094
Empire Trefoil +	Frontier Reed Canary	2598	2023	3697	3520	2186	1714	8481	7257
Empire Trefoil +	Saratoga Brome	3212	1986	4183	3779	2434	1894	9829	7659
	Fawn Tall Fescue	2693	2314	2668	3161	3141	2241	8502	7716
	Frontier Reed Canary	2930	2211	1571	2213	1672	1447	6173	5871
	Saratoga Brome	3876	2062	1947	2673	2002	1377	7825	6112